REMARKS

Upon entry of the present Amendment, claims 1-3 and 5-12 will be all the claims pending in the application. Claims 1 and 5 have been amended. Claim 4 has been canceled without prejudice.

Claim 1 has been amended to incorporate the subject matter of cancelled claim 4, to recite that the thickness of the contact metal layer is from 0.1 to 7.5 nm.

Claim 5 has been amended to depend directly from independent claim 1.

No new matter has been added. Entry of the Amendment is respectfully requested.

Claims 1-3, 7-8 and 12 were rejected under 35 U.S.C. §102(b) as being anticipated by Uemura (US 6,331,450 B1).

Claims 4-6 and 9-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Uemura (US 6,331,450 B1).

Applicants respectfully traverse the above rejections.

The Examiner cited Uemura as disclosing a transparent positive electrode 113 (Fig. 1, col. 5, lines 15-16) for gallium nitride-based compound (Fig. 1, col. 4, lines 40-41) semiconductor light-emitting devices (Fig. 1, col. 4, lines 40-41) comprising a contact metal layer 111 (Fig. 1, col. 5, lines 10-11) in contact with a p-type semiconductor layer 106 (Fig. 1, col. 4, line 57), a current diffusing layer 112 (Fig. 1, col. 5, line 13-14) on the contact metal layer 111 (Fig. 1, col. 5, lines 10-11).

The Examiner asserted that Uemura discloses a bonding pad layer 320 (**Fig. 4B**, col. 8, line 28) on the current diffusing layer 112 (**Fig. 1**, col. 5, line 13-14). Applicants respectfully disagree with the Examiner's interpretation of Uemura in this regard.

In particular, Uemura discloses in Fig. 1 and Fig. 4 two separate and independent embodiments for two different types of light emitting diodes. The light-emitting device shown in Fig. 1 is a flip-chip-type device in which the emitted light is extracted from a substrate (101) side. The light-emitting device shown in Fig. 4A is a wire-bonding-type device in which the emitted light is extracted from a positive electrode (310) side. Namely, these are two entirely different types of light-emitting devices, and Uemura neither discloses nor suggests forming the bonding pad layer 320 on the current diffusing layer 112.

More particularly, there is no teaching or suggestion within Uemura for modifying and combining the disparate embodiments disclosed in Fig. 1 (flip-chip-type device - first embodiment) and Fig. 4 (wire-bonding-type device - third embodiment) in the manner suggested by the Examiner, or otherwise.

Moreover, if the bonding pad layer 320 of Fig. 4A were to be formed on the current diffusing layer 112 of Fig. 1, when the flip-chip device is mounted on a lead-frame, soldering to the small projecting bonding pad must be carried out such that working performance and yield would decrease. Thus, one of ordinary skill in the art would not consider forming the bonding pad layer 320 of Fig. 4A on the current diffusing layer 112 of Fig. 1.

Further, Uemura discloses a third metal layer 113 located on top of a second metal layer 112, which is disposed over a first metal layer 111. The first metal layer is in turn disposed on a p-layer 106. The first metal layer 111 comprises rhodium (Rh), platinum (Pt), or an alloy thereof, and in accordance with this embodiment has a thickness of about 0.3 μm. The second metal layer 112 comprises gold (Au), and in accordance with this embodiment has a thickness of about 1.2 μm. The third metal layer 113 comprises titanium (Ti). Col. 5, lines 1-16.

However, the third metal layer 113 in Uemura is not a bonding pad layer, as required by

present claim 1.

The thickness of a bonding pad layer must be sufficiently large to prevent the contact metal layer or current diffusing layer from being damaged due to stress at bonding (see page 8, lines 17 to 20, of present specification). A bonding pad layer having a total thickness of 380 nm in five-layer structure consisting of Au/Ti/Al/Ti/Au (each thickness: 50/20/10/100/200 nm) is formed in Example 1 of the present invention (see page 11, lines 19 to 21, of the instant specification).

On the other hand, the thickness of the third metal layer 113 in Uemura is 30A (3 nm). Because the third metal layer 113 in Uemura is very thin, it does not serve as a bonding pad layer.

For the above reasons, Applicants respectfully submit that Uemura does not disclose or teach a transparent positive electrode having a bonding pad layer on the current diffusing layer, as required by claim 1.

In addition, claim 1 recites that the thickness of the contact metal layer is from 0.1 to 7.5 nm.

The Examiner acknowledged that Uemura does not disclose the claimed thickness range of the contact metal layer. However, the Examiner took the position that it would have been obvious to use any suitable thickness for the device.

Applicants respectfully disagree.

The instant specification discloses at page 6, third paragraph, if the thickness of the contact metal layer is less than 0.1 nm, a stabilized thin film can hardly be obtained, whereas if it exceeds 7.5 nm, the transparency decreases.

On the other hand, the thickness of first metal layer 111 in Uemura is 0. 3 μm (300nm). Therefore, because the first metal layer 111 in Uemura is very thick, it cannot transmit light. As shown in Fig. 1 of Uemura, light is reflected at the interface between p-type semiconductor layer 106 and contact metal layer 111. Thus, reducing the thickness of the contact metal layer as suggested by the Examiner would render the device of Uemura unsatisfactory for its intended purpose. That is, Uemura teaches away from modifying the device described therein in the manner suggested by the Examiner. MPEP § 2145.

In view of the above, it is respectfully submitted that the present claims are patentable over Uemura, and withdrawal of the foregoing rejections under 35 U.S.C. §102(b) and 35 U.S.C. §103(a) is respectfully requested.

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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